Late-Sown Emergency Feed Crops for Illinois

Soybeans, Cowpeas,
Corn, Sudan Grass,
Rye, Millet, Sorghum,
Rape, Buckwheat

UNIVERSITY OF ILLINOIS
COLLEGE OF AGRICULTURE AND AGRICULTURAL EXPERIMENT STATION

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SEVERE drouth and chinch bug attacks have created an urgent and widespread demand for information about field crops that can be planted late for emergency feed. This circular contains brief descriptions of the crops that may serve this purpose—varieties, seeding methods, cultivation, and harvesting.

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AS EMERGENCY CROPS for fodder, soybeans, cowpeas, corn, Sudan grass, rye, millet, sorghum, rape and buckwheat may be planted in June and July, and some of them even as late as the middle of August in Illinois. Ensuing weather conditions will, of course, determine the success of these crops, Even with favorable weather, however, normal yields are not usually to be expected with such late seedings.

The above crops should be planted only in soil that has sufficient moisture to insure germination. If the soil is dry, the seed is likely to lie indefinitely. Under light showers, it may partially germinate and then dry out; this is fatal and the seed is wasted.

Corn, Sudan grass, rye, millet and *sorghum,* it must be remembered, are subject to chinch bug attack, being members of the grass family. Special consideration must be given to this fact this year. It is useless to plant these crops where the chinch bug hazard is imminent. It may be advisable under some circumstances to postpone planting in the hope that a protracted wet period may change the chinch bug situation.

Because seed for most of the above crops is becoming very scarce, if available at all, little consideration can be placed on order of preference. It is suggested that, so far as possible, farmers use such seed as may be at hand. If corn is readily available, as it usually is, planting it promptly where it is reasonably safe from chinch bugs will probably yield better results than delaying to search for some other crop.

SOYBEANS

The soybean is an annual legume, rich in feed value. Planted in June, there is a chance under favorable weather conditions to secure a seed crop, but with later seeding only a hay crop should be expected. It is not very well adapted as a pasture crop. *Being a legume, the soybean is chinch bug proof.*

Varieties. There are numerous well-adapted varieties of soybeans. Because of the present scarcity of seed, it is recommended that whatever seed is available be used.

Seeding method. Soybeans may be drilled in rows 18 to 32 inches apart, which permits cultivation; or they may be seeded solid, that is, with all holes in the drill open.

Seed required. When planted in rows, 35 to 45 pounds of seed to the acre are used. Seeded solid, 1½ to 2 bushels are recommended.

Rate of seeding depends upon size of seed, which varies according to variety.

Cultivation. A hard, crusty soil surface must sometimes be broken up before the beans come thru the ground. This can be done with a spike-tooth harrow or with a rotary hoe. If the beans are planted in rows, cultivation can be carried on with corn-cultivating implements. If seeded solid, the rotary hoe may be used.

Harvesting. To avoid loss of leaves, soybeans should be cut for hay before frost comes, if possible. Hay may be cut with the mower and cured in windrow and shock.

Seed supply. If seed cannot be procured locally from neighboring farmers, apply to seed dealers, or to county farm advisers in soybean-producing counties.

Further information. See Bulletin 310 of this Station, "Soybean Production in Illinois."

COWPEAS

The cowpea is an annual legume similar in many respects to the soybean, both as to characteristics and handling of the crop. On good soil, however, it yields less seed than soybeans. Its long trailing habit of growth makes it much less convenient to handle as hay. Cowpeas are grown mainly in southern Illinois. Like the soybean, *the cowpea is chinch bug proof.*

Varieties. Some prominent varieties for Illinois are Whippoorwill, Clay, and Blackeye. In the present seed emergency, however, the choice of a particular variety is not especially urgent.

For **seeding method, seed required, cultivation,** and **harvesting,** see soybeans.

Seed supply. In southern Illinois seed may possibly be procured from neighboring farmers. Otherwise, apply at seed dealers.

Further information. Consult Farmers' Bulletins 1148, "Cowpeas: Culture and Varieties," and 1153, "Cowpeas: Utilization," issued by the U. S. Department of Agriculture.

CORN

Corn may be sown late for fodder. As often happens when the weather has been so unfavorable as to make the late sowing of emergency crops necessary, seed supplies of most of these crops have become exhausted. Corn, however, is usually available, is relatively inexpensive, and is likely to produce just as valuable feed in many cases as some less common crop. *Corn is subject to chinch bug attack.*

Varieties. Any kind of corn—field corn, sweet corn, or pop corn

—will serve unless the kernels are too large to be delivered from the drilling implement.

Seeding methods. Corn may be drilled in rows for cultivation. Drilled solid it furnishes a small-stemmed, succulent feed.

Seed required. The amount of seed required depends upon its size. For drilling solid, 1½ to 2 bushels an acre is suggested.

Harvesting. Late-planted corn may reach sufficient maturity for use as fodder or silage.

Seed supply. Seed for planting in this way is commonly available on the farm or can be procured in the neighborhood.

SUDAN GRASS

Sudan is a tall annual grass. It has given reasonably good results at the Illinois Station when sown as an emergency crop as late as the middle of August. It is used as forage in the form of pasture, hay, or silage. A characteristic of great value is its rapid growth. At the Illinois Station it has come into condition for pasture as early as 4 to 6 weeks after planting. *Sudan grass is subject to chinch bug attack.*

Varieties. Only one variety of Sudan grass is on the market.

Seeding method. Unless grown for seed, plant broadcast.

Seed required. Twenty pounds to the acre are recommended.

Cultivation. Unless grown in rows for seed production, no particular cultivation is required.

Harvesting. Sudan grass is good for grazing or it may be cut for hay as soon as headed out. Under a severe set-back in its normal growth, such as may be caused by wilting or by frost, there is danger of its becoming poisonous and under such circumstances great caution in pasturing should be observed.

Seed supply. Large seed dealers may be able to furnish seed. It may pay, particularly if large quantities are desired, to inquire in the regions where grown; that is, Kansas, Oklahoma and Texas.

Further information. Consult Farmers' Bulletin 1126, "Sudan Grass," issued by the U. S. Department of Agriculture.

RYE

Rye makes an excellent late pasture and if sufficient growth is permitted to remain, it lives thru the winter and furnishes a short-season pasture the following spring. Where it is not too heavily pastured it will also produce a grain crop. Under favorable weather conditions (which, of course, in late fall cannot always be assured) rye may be cut and cured for hay. *Rye is subject to chinch bug attack.*

Varieties. There are two kinds of rye—winter and spring. The winter varieties are used in Illinois for emergency forage.

Seeding method. Rye is usually planted in September, the same as wheat, altho for fall pasture it may well be sown in August. It is either drilled or broadcast and harrowed in.

Seed required. For forage, use 1½ to 2 bushels of seed an acre.

Cultivation. No special cultivation is required.

Harvesting. Pasturing may be started when the rye is about 5 or 6 inches high.

Seed supply. If rye is not at hand on the farm, it may be found in the neighborhood; otherwise, apply to dealers.

MILLET

Millet is the name applied to a number of cultivated annual grasses, some of which are used as forage crops and others as grain crops. Millet can be sown late in the season. For hay it is not so highly regarded as Sudan grass, but millet seed can sometimes be obtained after the Sudan supply is exhausted. Millet is fairly well adapted to our hot, dry summer seasons. *Millet is subject to chinch bug attack.*

Varieties. There are numerous varieties. Foxtail is the variety probably most common in this region. German millet is coarser than foxtail. Hungarian grass is another variety sometimes used.

Seeding method. Millet is usually drilled or broadcast for forage.

Seed required. Two to 4 pecks to the acre of millet are usually recommended for planting.

Harvesting. It is recommended that hay for horses be cut before the seed forms, but for cattle and sheep it may be allowed to develop further. It should not, however, become too ripe.

Seed supply. For seed apply to the larger seed dealers.

Further information. Consult Farmers' Bulletin 793, "Foxtail Millet," issued by the U. S. Department of Agriculture.

SORGHUM

Sorghum is capable of withstanding very hot, dry weather. There are many kinds of sorghum and they serve various purposes. Sorghum can be used for hay, forage, silage, seed, or the preparation of sirup. The sweet sorghums are usually used for forage and they are the only kind which can be used for sirup. Grain sorghums may be substituted to a high degree for corn as feed. The grain has special merit as a poultry feed. *Sorghum is subject to chinch bug attack.*

Varieties. Varieties adapted for forage and sirup are: Red Amber, Black Amber, Honey, and Sumac; those suitable for grain: Blackhull kafir, Grohoma, Dwarf kafir, Dwarf milo, and Feterita.

Seeding method. For grain, forage, or silage, plant seed in hills similar to corn; for hay, drill or broadcast.

Seed required. Four to 6 pounds of seed are required when planted in hills. When broadcast, 40 to 75 pounds are used. The higher rate of seeding produces finer stems.

Cultivation. The cultivation of sorghum planted in hills is similar to that of corn. Where broadcast or drilled, sorghum can be harrowed until about 6 inches high.

Harvesting. When used for fodder and hay, sorghum may be cut when the seed is in the early dough stage. When used for silage, it may be cut in the early maturing stage. The grain sorghum may be harvested by cutting off the heads and threshing with a grain thresher. It may also be cut and shocked, and later threshed or fed as fodder. *Under certain conditions, sorghum leaves become poisonous and should be pastured cautiously.*

Seed supply. See Sudan grass.

Further information. The U. S. Department of Agriculture has issued a number of publications on sorghum in the Farmers' Bulletin series, including No. 1137, "Grain Sorghums, How to Grow Them;" No. 1158, "Growing and Utilizing Sorghums for Forage;" No. 1389, "Sorgo-Sirup Manufacture;" No. 1577, "Harvesting Grain Sorghums;" and No. 1619, "Sorgo for Sirup Production, Culture, Harvesting and Handling."

RAPE

Rape is used for pasture, especially for hogs and sheep. It should not be fed to milk cows because it gives an off-flavor to the milk. It should not be planted too close to the farm house because of the disagreeable odor that it gives off at times. The seeding of two patches is advisable for alternate pasturing. *Rape is chinch bug proof.*

Varieties. Dwarf-Essex is recommended.

Seeding method. Planting in corn after the last cultivation is a common practice. Disking in the stubble of small grain has been proposed. The small seed should be sown shallow, about ½ inch deep on a well-prepared seed bed. It may be sown broadcast or planted with a drill. Planting in 24-inch rows is suggested as a means of reducing loss due to trampling by stock.

Seed required. Planted in 24-inch rows, 2½ pounds of seed to the acre are sufficient. When drilled solid or broadcast, 4 or 5 pounds are required.

Cultivation. When planted in rows, the ground may be worked to keep weeds down.

Harvesting. Rape is used mainly for pasture. Stock may be turned on when growth is about one foot high.

Seed supply. Apply to dealers.

Further information. See mimeograph folder, "Growing Rape for Forage," this Station, for fuller account of rape culture.

BUCKWHEAT

Buckwheat may be sown until midsummer for a seed crop. Sometimes, however, it comes into flower when conditions are too hot and dry for successful seed formation. Buckwheat will thrive on poorer soil than many other crops. The seed of buckwheat makes a valuable hog feed. *Buckwheat is chinch bug proof.*

Varieties. Japanese, Silverhull, and Common Gray are the more common varieties.

Seeding methods. The drill is used to sow buckwheat, or the seed may be broadcast and harrowed in.

Seed required. One bushel to the acre is recommended.

Harvesting. Buckwheat may be harvested with a self-rake reaper, or with a grain binder. For threshing, the grain separator is modified by removing some of the teeth from the concave.

Seed supply. Apply to seed dealers.

Further information. Consult Farmers' Bulletin 1062, "Buckwheat," issued by the U. S. Department of Agriculture.

GRASS-LEGUME MIXTURES

A mixture of Sudan grass and soybeans has given good results at this Station. This grass-legume combination furnishes a richer feed than the grass alone. Other combinations are indicated below. Where Sudan grass was mixed with soybeans in experiments at this Station the plots remained practically uninjured by chinch bugs, altho neighboring plots of Sudan grass planted alone were badly infested.

Varieties. Soybeans or cowpeas may be combined with either *Sudan, millet, sorghum,* or *corn,* according to kinds of seed available.

Seeding methods. The best method of planting these combinations will depend upon the relative sizes of the seeds employed. Where seeds of different size are combined, the smaller seed may be broadcast on the surface of the ground and then the larger seed planted deeper with a drill which at the same time covers the smaller seed.

Seed required. The following amounts of seed to the acre are suggested for mixtures of this kind.

Sudan grass	10 pounds	Sorghum	1 bushel
Soybeans	1 to 1½ bushels	Corn	1½ bushels
Cowpeas	1 to 1½ bushels	Millet	10 pounds

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